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EXAMINER				
LAMB, CHRISTOPHER RAY				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,741

Applicant(s)

SUH ET AL.

Examiner

Christopher R. Lamb

Art Unit

2627

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7-9,14-17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7-9,14-17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 30th, 2008 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3, 5, 7-9, 14-17, 19-21 and 22-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1:

This claim is not entirely clear, as noted in the 35 U.S.C. 112, second paragraph, rejection that follows. This rejection is based on what applicant appears to be trying to claim.

This is a claim to a high-density, computer-readable medium.

This claim recites “at least one playback allowance code stored in the user control data,” and then goes on to recite “wherein the at least one playback allowance code...[has] been randomized by a shift register.”

It would appear from this combination of elements that applicant is attempting to claim wherein the randomized code is recorded on the medium.

However, in the specification the randomized code is not recorded on the medium. The playback allowance code itself (i.e., the non-randomized code) is recorded.

The specification does disclose randomizing the code, but during the encoding or decoding process. It does not disclose recording the randomized code on the medium.

See, for example, page 6, lines 1-10 of the specification, where it states that the playback allowance code is recorded in the access block. It does not disclose that the code is randomized before recording.

The randomization is discussed on page 8. This happens during the encoding or decoding process. However, note that in lines 5-10, it discloses that the region key is read from the disc, and then it is randomized afterward in lines 10-15. Therefore the region key read from the disc has not been randomized.

Additionally, the specification does not disclose randomizing the false playback allowance code before recording it on the medium either.

Therefore the specification does not reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention.

Regarding claims 3, 5, and 19:

They are dependent on claim 1.

Regarding claim 23:

This claim is dependent on claim 1.

Additionally, there is another problem with this claim.

It includes subject matter "wherein the randomized at least one playback allowance code and the at least one false playback allowance code are logically combined with an address unit number by an exclusive OR element as to scramble the address unit number by the code associated with a selected region."

However, in the specification, the false playback allowance code is not used to scramble the address unit number. It is just a fake code that doesn't work. Therefore it hasn't been used: there is no disclosure anywhere in the specification of using the false playback allowance code to scramble anything.

Regarding claim 7:

It recites "identifying region identification information including a region-based playback allowance code and at least one false playback allowance code associated with a playback inhibited region, the allowance code and the false playback allowance code having been randomized by use of a shift register and then stored in a recording/reproducing apparatus."

The specification does not disclose wherein the region identification information includes a region-based playback allowance code and at least one false playback allowance code.

The region identification information is disclosed on page 7, lines 20-27. There it states "this region identification information is used to search the BD-ROM for a desired region key." The region key is the playback allowance code.

Therefore the specification, at the time the invention was filed, does not disclose region identification information that includes a region-based playback allowance code and at least one false playback allowance code associated with a playback inhibited region. It discloses region identification information that can be used to find the playback allowance code, but not region identification information that includes it.

Regarding claims 8, 9, 20, and 24:

They are dependent on claim 7.

Regarding claim 14:

This is a claim to a method of recording.

It contains subject matter including "randomizing the region-based playback allowance code and the at least one false playback code with a shift register."

However, during recording the false playback code is not randomized with a shift register. The randomization process is used during scrambling and descrambling of the address unit number, as in the specification page 7, lines 4-10.

However, because the false playback code is not used to scramble information, it is not combined with a shift register during the recording process.

Therefore this claimed subject matter was not described in the specification at the time the invention was filed.

Regarding claims 15, 16, and 21:

They are dependent on claim 14.

Regarding claim 25:

It is dependent on claim 14. Additionally, it contains language similar to that of claim 23.

Regarding claim 17:

It contains language similar to that of claim 14.

Regarding claim 22:

It is dependent on claim 17.

Regarding claim 26:

It is dependent on claim 17. Additionally, it contains language similar to that of claim 23.

Regarding claim 24:

This claim recites "wherein the region-based playback allowance code and the at least one false playback allowance code are logically combined with an address unit number with an exclusive OR element so as to scramble the address unit number."

However, in the specification, the false playback allowance code is not used to scramble the address unit number. It is just a fake code that doesn't work. Therefore it hasn't been used: there is no disclosure anywhere in the specification of using the false playback allowance code to scramble anything.

Additionally, this is a claim to a method for reproducing. There is no disclosure of scrambling the address unit number during reproduction. Instead, the opposite occurs: the address unit number is de-scrambled during reproduction.

Art Unit: 2627

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3, 5, 7-9, 14-17, 19-21 and 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1:

This is a claim to a medium.

It claims subject matter including "at least one playback allowance code stored in the user control data" and "at least one false playback allowance code stored in the user control data."

It also claims "wherein the at least one playback allowance code and the at least one false playback allowance code have been randomized by a shift register."

This claim is indefinite because it is unclear from the claim whether the codes stored in the user control data are the codes that have been randomized. That is, the codes in the user control data might be the original codes, or the codes after randomization. The claim does not explicitly state either way, and therefore it is confusing.

If applicant is attempting to claim wherein the original codes are stored in the user control data, then the limitation wherein "the at least one playback allowance code and the at least one false playback allowance code have been randomized by a shift register" has an additional problem. In that case this claim limitation would appear to describe a method step that has nothing to do with the claimed medium. If the codes

are randomized after being read to the medium, it has no impact on the structure of the medium itself.

Regarding claims 3, 5, 19, and 23:

They are dependent on claim 1.

Regarding claim 7:

There are several problems with this claim.

First, it recites "identifying region identification information including a region-based playback allowance code and at least one false playback allowance code associated with a playback inhibited region, the allowance code and the false playback allowance code having been randomized by use of a shift register and then stored in a recording/reproducing apparatus."

It later recites "the playback allowance code corresponding to the identified region identification information."

This is confusing. From the first limitation, it appears that the region identification information is itself the region-based playback allowance code.

However, the second limitation appears to indicate that they are different, but that the playback allowance code corresponds to the region identification information.

In the specification, the region identification information is information indicating which of the allowance codes is the playback allowance code (the others being false codes). In that case the code would "correspond" to the region identification information. However, in that case the region identification information does not "include" the playback allowance code: it only shows where it is.

Second, this is a claim to "a method for reproducing data." The claim includes wherein "the false playback allowance code [has] been randomized by use of a shift register and then stored in a recording/reproducing apparatus."

The specification does not disclose randomizing the false playback allowance code with a shift register during reproduction.

However, if the apparatus reads the false playback allowance code and tries to reproduce using it, it could conceivably randomize the false playback allowance code with the shift register during the reproduction attempt.

It's not clear if this step is what applicant is attempting to claim. If it is, it is confusing because the preamble recites that this is a claim to a "method of reproducing data," and that process does not occur during reproduction, but only during a failed reproduction attempt using a false code.

Regarding claims 8, 9, 20, and 24:

They are dependent on claim 7.

Regarding claim 14:

This is a claim to "a method of recording data."

It recites "randomizing the region-based playback allowance code and the at least one false playback allowance code with a shift register."

The specification does not disclose randomizing the false playback allowance code with a shift register during recording.

However, if the apparatus reads the false playback allowance code and tries to reproduce using it, it could conceivably randomize the false playback allowance code with the shift register during the reproduction attempt.

It's not clear if this step is what applicant is attempting to claim. If it is, it is confusing because the preamble recites that this is a claim to a "method of recording data," and that process does not occur during recording.

Therefore this claim is indefinite.

Regarding claims 15, 16, and 21:

They are dependent on claim 14.

Regarding claim 25:

It is dependent on claim 14. There is an additional problem with this claim.

It recites "combining the randomized region-based playback allowance code and the at least one false playback code with an exclusive OR element."

From this part of the claim language, it appears that both the code and the false code are combined.

However, the claim goes on to state "as to scramble the address unit by the playback allowance code **or** false playback code."

From this part of the claim language, it appears that only one or the other of the code or the false code is combined.

Therefore the claim is indefinite. It is not clear whether the subject matter being claimed is that where both codes are combined, or where just one of the two codes is being combined.

Regarding claim 17:

It contains language similar to that of claim 14.

Regarding claim 22:

It is dependent on claim 17.

Regarding claim 26:

It is dependent on claim 17. There is an additional problem with this claim: it contains language similar to that of claim 25.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 5, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (US 6,289,102) in view of Reed (US 2002/0111993).

Regarding claim 1:

Ueda discloses a high-density computer-readable medium (abstract: it is high density as described in column 1), comprising:

at least one access block including physical address data and user control data (the lead-in area: column 7, lines 55-65);

at least one playback allowance code stored in the user control data (the playback allowance code is part of the scramble information, column 7, lines 55-65; specifically the initial value: column 8, lines 35-45), which is adapted to determine

region-based allowance of playback of data recorded on the recording medium (that a code can be region-based is disclosed in column 2, lines 25-40; also column 9, lines 1-10 shows how the apparatus and disc must match for reproduction),

wherein the at least one playback allowance code has been randomized by a shift register (column 8, lines 25-30)

at least one of an address unit number and user data recorded on the recording medium (abstract),

wherein at least one of the address unit number and the user data is scrambled by being logically combined with said at least one playback allowance code (column 8, lines 1-15).

Ueda does not disclose:

(A) wherein the physical address data has 24 columns and 6 rows, and the user control data has 24 columns and 24 rows; or

(B) at least one false playback allowance code stored in the user control data for a playback-inhibited region, the at least one false playback allowance code being recorded with an optional value other than a value of said playback allowance code.

Regarding (A):

It would have been obvious to one of ordinary skill in the art at the time of the invention wherein in Ueda the physical address data has 24 columns and 6 rows, and user control data has 24 columns and 24 rows.

The rationale is as follows:

Ueda discloses a lead-in area that contains physical address data and user control data. The only difference between Ueda and the claimed invention is the claimed number of columns and rows: in other words, the size of the area.

However, that size can easily be determined in the course of routine engineering optimization/experimentation to determine the appropriate size. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in this claim are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Regarding (B):

Reed discloses recording decoy keys on an optical disc (paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ueda at least one false playback allowance code for a playback-

inhibited region, the at least one false playback allowance code being recorded with an optional value other than a value of said playback allowance code (in other words, a decoy code).

The motivation would have been to improve the security of the disc.

Regarding claim 3:

In Ueda in view of Reed said at least one playback allowance code comprises a code for a playback-allowed region (column 2, lines 25-40), the code for the playback-allowed region being combined with at least one of the address unit number and the user data in a scrambled state (Ueda abstract: e.g., column 8, lines 1-15).

Regarding claim 5:

In Ueda in view of Reed said at least one playback allowance code is used to de-scramble at least one of the address unit number and the user data when the recording medium is played back (Ueda abstract: e.g., column 7, lines 55-65).

Regarding claim 14:

Ueda in view of Reed discloses a method of recording data on a high-density computer-readable medium, comprising the steps of:

(A) selecting a region-based playback allowance code in order to restrict a playback, the region-based playback allowance code being unique to at least one region (selecting a code: Ueda column 7, lines 40-65; that a code may be region-based: Ueda column 2, lines 25-40) and being stored in user control data of at least one data block (the lead-in area), the at least one data block including physical address data

having 24 columns and 6 rows, and the user control data having 24 columns and 24 rows (obvious as noted in the rejection of claim 1 above); and

(B) scrambling at least one of a user data and an address unit based on the selected region-based playback allowance code (Ueda column 7, lines 40-55); and

(C) associating at least one false playback allowance code stored in the user control data with a playback-inhibited region, the at least one false playback allowance code being recorded with an optional value other than a value of said playback allowance code (decoy codes are taught by Reed as discussed above); and

randomizing the region-based playback allowance code and the at least one false playback code with a shift register (column 8, lines 25-30; the false code is randomized during a reproduction attempt using it).

Regarding claim 15:

The method of Ueda in view of Reed further comprises the steps of:

(C) recording at least one of the scrambled user data and the address unit with the selected region-based playback allowance code on the high-density recording medium (Ueda column 7, lines 40-65).

Regarding claim 16:

In Ueda in view of Reed the selected region-based playback allowance code is one of at least two codes (e.g., Ueda Fig. 3: Ueda has multiple codes and the number indicates which one is used).

Regarding claim 17 and 26:

All elements positively recited have already been identified with respect to earlier rejections (non region-based playback allowance codes are the decoy codes taught by Reed). No further elaboration is necessary.

Regarding claim 25:

This claim is unclear as noted in the 35 U.S.C. 112, second paragraph, rejection above.

However, assuming applicant intends to claim "combining the randomized region-based playback allowance code with an exclusive OR element as to scramble the address unit by the playback allowance code," this is disclosed in Ueda column 8, lines 1-15: an "exclusive logical sum" is an exclusive OR.)

Regarding claim 17 and 26:

All elements positively recited have already been identified with respect to earlier rejections (non region-based playback allowance codes are the decoy codes taught by Reed). No further elaboration is necessary.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda.

Ueda discloses a medium as discussed in the rejection of claim 1.

Ueda does not disclose (in the embodiment relied upon) "a second playback allowance code stored in the user control data, the second playback allowance code being adapted to determine region-based allowance for a second region for playback of data recorded on the recording medium."

However, Ueda does disclose (in a separate embodiment) a second playback allowance code stored in the user control data, the second playback allowance code being adapted to determine region-based allowance for a second region for playback of data recorded on the recording medium (column 19, lines 15-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Ueda a second playback allowance code stored in the user control data, the second playback allowance code being adapted to determine region-based allowance for a second region for playback of data recorded on the recording medium.

The motivation would have been to allow playing in a second region.

Response to Arguments

10. Applicant's arguments filed April 30th, 2007 have been fully considered but they are not persuasive.

Applicant argues that Ueda in view of Reed does not disclose a shift register as recited in claim 1. Applicant admits Ueda discloses a shift register, but argues that it is not used to randomize the playback allowance code.

However, Ueda appears to use the shift register in the same manner as applicant's invention. The playback allowance code is an initial value supplied to the

shift register for generating a random number sequence, and that sequence is then used to encrypt or decrypt the data. This is the same process as applicant discloses. Therefore this argument is not persuasive.

Applicant then repeats these arguments with respect to other claims; it is not persuasive with respect to them either.

Please note that due to the amendment, all claims have been rejected under 35 U.S.C. 112, first and second paragraphs, for various reasons noted above. Also, because of these 112 issues, no prior art has been applied to claim 7 and its dependent claims. The others are still rejected in view of Ueda and Reed as noted above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 5:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art
Unit 2627

CRL 7/16/08